Author Index

Abrams HB, 383
Akin FW, 445
Alexander GC, 423
Amlani AM, 190, 202
Ananthanarayan AK, 523
Arlinger S, 357

Baguley D, 379
Beattie RC, 453
Bell TS, 514
Bentler RA, 462, 534
Berger HS, 309
Bisgaard N, 296
Blanchfield BB, 183
Boothroyd A, 390
Brackmann DE, 471
Burwood E, 315
Buus S, 113
Byrne D, 37, 315

Campbell C, 215
Carpenter M, 142, 348
Champlin CA, 59
Ching T, 37
Chisolm TH, 383
Cox RM, 423
Cranford JL, 1, 142, 348
Cruickshanks KJ, 337
Cuttler K, 215

Dalebout SD, 245
De Chicchis AR, 142
Dietrich S, 223
Dillon H, 37, 150
Dirks DD, 233
Dittberner A, 534
Downs CR, 1, 348
Driscoll C, 506
Dunbar JL, 183

Fabry DA, 128
Feldman JJ, 183
Flamme GA, 534
Flexer C, 406
Florentine M, 113
Fowler CG, 174
Fox LG, 245

Gardner EN, 183
Geer S, 52
Goldberg DM, 406
Gorga MP, 101
Grant H, 301
Gray GA, 423
Green WB, 437
Greenwald RR, 167

Hällgren M, 357
Halpern J, 15
Harkins J, 275, 290
Hecox KE, 174
Henshall KR, 478
Hooks-Horton S, 52
Hoover B, 101
Hosford-Dunn H, 15
Hymel MR, 1, 142

Jacobson GP, 128, 379, 493
Jerger J, 167
Jerger S, 329
Jerram JCK, 64
Jirsa RE, 155

Katsch R, 37
Kavanagh KT, 497
Kei J, 371, 506
Keidser G, 37
Keith W, 490
Keogh T, 506
Kile JE, 174
Killion MC, 281
Kitch VJ, 415
Klostermann B, 397
Knight MR, 121

Larsby B, 357
Levitt H, 275, 322
Lyes R, 490
Lyxell B, 357

Mackersie CL, 390
Mann T, 215
Martin FN, 59
Marvit P, 113
McCaslin DL, 493
McCreery TM, 59
McCullough JA, 254
McDermott HJ, 121
McKay CM, 478
McPherson B, 371
McPherson DL, 223
Minniear D, 390
Moshfegh A, 233
Murnane OD, 445

Nelson JA, 462
Newman CW, 128, 379
Noe CM, 261
Nondahl DM, 337
Norman M, 379
Novick ML, 534

Parthasarathy TK, 80, 397
Plyler PN, 523
Pravica D, 348
Preissler K, 101
Punch JL, 190
Purdy SC, 64

Rakerd B, 190
Raman S, 301
Ravindran AR, 301
Rochverger I, 453
Roeser RJ, 329
Ross M, 286

Salamat MT, 223
Sandridge SA, 128, 379
Schlegel RE, 301
Scott T, 437
Simmons J, 101
Singer B, 275
Slattery WH III, 471
Smith S, 371
Smyth V, 371, 506
Solcyk L, 471
Souza PE, 415
Spitzer JB, 379
Storey L, 150
Strouse Carter A, 7, 86, 261
Stuart A, 52, 348, 437

Takayanagi S, 233
Teder H, 281
Thoma R, 281
Tobey EA, 329
Torre P III, 337
Tucker A, 471
Tucker DA, 223
Tweed TS, 337

Walker L, 101
Walker LJ, 348
Wiley TL, 337
Wilson RH, 7, 86, 254, 261, 514

Young E, 275

Subject Index

Abbreviated Profile of Hearing Aid Benefit (APHAB), 383–389, 434
ABR. *See* Auditory brainstem response
Acoustic mode, 309–310
Acoustic neuroma, 471–477
AEPs. *See* Auditory evoked potentials
AERPs. *See* Auditory event–related potentials
Aging. *See* Elderly
ALD. *See* Assistive listening device
ALR. *See* Auditory late response
America's Cup, 490
AMLR. *See* Auditory middle latency response
Amplification
  binaural, 261–271
  linear peak clipping, 415–420
  nonlinear, 37–50
  satisfaction with, 15–36
Analogue signal processing, 202–213
APDs. *See* Auditory processing disorders
APHAB. See Abbreviated Profile of Hearing Aid Benefit
Assistive listening device (ALD), 322–326
Asymmetry
  ear, 506–513
  hemispheric, 167–173
Attention, 142–149, 348–354
Attitude, 64–75, 78–79
Audibility, 415–420
Auditory brainstem response (ABR)
  after acoustic tumor surgery, 471–477
  in children, 155–162
  and cortical hearing loss, 174–181
  in newborns, 101–112, 215–218, 220–221
  tone bursts in, 453–459
Auditory event–related potentials (AERPs), 1–5, 142–149, 245–252, 348–354
Auditory evoked potentials (AEPs), 1–5, 142–149, 223–231, 348–354
Auditory late response (ALR), 245–252, 273–274
Auditory middle latency response (AMLR), 223–231
Auditory processing disorders (APDs), 155–162
Auditory thresholds, 52–57

Auditory-verbal programs, 406–413
AVR ImpaCt hearing aid, 121–127

Behind-the-ear (BTE) hearing aids, 15–36, 276, 279–280, 305, 315, 317, 534–543
Binaural amplification, 261–271
Binaural stimulation, 1–5
Binaural summation, 462–470
Blackman gating function, 453–459
Brain maps, 223–231
Broadband noise, 80–84
BTE. *See* Behind-the-ear (BTE) hearing aids

CASPA. *See* Computer-Assisted Speech Perception Assessment Test
CBBN. *See* Contralateral broadband noise
CDMA. *See* Code division multiple access
Cellphones. *See* Wireless telephones
Children
  auditory processing disorder in, 155–162
  distortion-product otoacoustic emissions in, 506–513
CNAP. *See* Cochlear nerve action potential
Cochlear implants, 478–488
Cochlear nerve action potential (CNAP), 471–477
Code division multiple access (CDMA), 276, 277, 279, 287, 303
Cognitive test battery, 357–369
Communication Profile for the Hearing Impaired (CPHI), 64–75, 79
Competition
  noise, 190–201
  speech, 167–173
  stimulus, 142–149
Complex sound field, 534–543
Compression limiting amplification, 415–420
Computer-Assisted Speech Perception Assessment Test (CASPA), 390–396
Computer audiometry, 254–260
Consonants, 233–244, 390–396, 514–521, 523–534
Consonant-vowel-consonant (CVC), 233–244, 390–396, 514–521
Contralateral broadband noise (CBBN), 80–84
Contralateral suppression, 80–84
Cortical hearing loss, 174–181
CPHI. *See* Communication Profile for the Hearing Impaired
CVC. *See* Consonant-vowel-consonant

Damped long horn (DLH), 283–284
Deafness. *See* Hearing loss
Depression, 493–495
Dichotic word recognition, 86–98, 261–271
Digital wireless telephones. See Wireless telephones
Directional microphone hearing aid (DMHA), 202–213, 534–543
Distortion-product otoacoustic emissions (DPOAEs)
  effects of ear asymmetry, handedness, and gender on, 506–513
  exercise and noise effects on, 52–57
  in newborns, 108–110
  similarities and differences in devices, 397–405
DLH. *See* Damped long horn
DMHA. *See* Directional microphone hearing aid
Down syndrome, 174–181
DPOAEs. *See* Distortion-product otoacoustic emissions

Ear asymmetry, 506–513
ECMO. *See* Extracorporeal membrane oxygenation
EEG. *See* Electroencephalography
EHIMA. *See* European Hearing Instruments Manufacturers Association
EHLS. *See* Epidemiology of Hearing Loss Study
Elderly
  dichotic word recognition in, 86–98, 261–271
  hearing handicap inventory for, 64–75
  hearing loss in, 65, 337–346
  hemispheric asymmetry in, 167–173
  scalp topography in, 1–5
  transient evoked otoacoustic emissions in, 80–84
Electrical status epilepticus, 174–181
Electrodes, 478–488
Electroencephalography (EEG), 174–181, 223–231, 348–354
Electromagnetic cell, 281, 325
Electromagnetic compatibility (EMC), 298, 301–308
Electromagnetic interference, in hearing aids
  Australian experience, 315–321
  European experience, 296–300
  field measurements, 275–280
  nature of, 322–326
  and wireless telephones, 275–326
Electromyography (EMG), 445–451, 491
EMC. *See* Electromagnetic compatibility
EMG. *See* Electromyography
Epidemiology of Hearing Loss Study (EHLS), 337–346
ERPs. *See* Event-related potentials
European Hearing Instruments Manufacturers Association (EHIMA), 296–300
Event-related potentials (ERPs)
  attention versus stimulus competition, 142–149
  hemispheric asymmetry of, 167–173
  mismatch negativity, 348–354
  monaural versus binaural stimulation, 1–5
Exercise, 52–57
Extracorporeal membrane oxygenation (ECMO), 215

FCC. *See* Federal Communications Commission
FDA. *See* Food and Drug Administration
Federal Communications Commission (FCC), 290–291, 311
FFR. *See* Frequency-following response
Filters, 437–443, 478–488
Food and Drug Administration (FDA), 397–405
Forced choice, 190–201
Frequency-following response (FFR), 523–532
Frequency-transposing hearing aid, 121–127

Gap detection, 113–120
Gating functions, 453–459
Gender
  and distortion-product otoacoustic emissions in children, 506–513
  and Hearing Aid Selection Profile, 133
  and hearing aid use, 65
  and presbyacusis, 502–503
Global System for Mobile Communication (GSM), 287, 290–294, 296–300, 315–321
GSM. *See* Global System for Mobile Communication

Handedness, 506–513
Handicap. *See* Hearing handicap
HARQ. *See* Hearing Attitudes in Rehabilitation Questionnaire
HASP. *See* Hearing Aid Selection Profile
Hearing aids
  AVR ImpaCt, 121–127
  behind-the-ear, 15–36, 276, 279–280, 305, 315, 317, 534–543
  benefits from, 72–73, 383–389, 434–435
  binaural, 261–271
  directional microphone, 202–213, 534–543
  electromagnetic interference from wireless telephones, 275–326
  fitting, 37–50, 190–201, 534–543
  frequency-transposing, 121–127
  in-the-ear, 15–36, 204–213, 284, 315, 317–318, 534–543
  monaural, 261–271
  nonlinear, 37–50
  omnidirectional, 202–213
  outcome measures, 15–36, 64–75, 78–79
  paired comparisons, 190–201
  preferred volume setting, 415–420
  satisfaction with, 15–34
  willingness-to-pay approach, 383–389, 434–435
Hearing Aid Selection Profile (HASP), 128–140, 165–166

Hearing Attitudes in Rehabilitation Questionnaire (HARQ), 68–69, 78–79
Hearing handicap, 64–75, 497–504
Hearing Handicap Inventory for the Elderly (HHIE), 65
Hearing impairment. *See* Hearing loss
Hearing in Noise Test (HINT), 537–538, 540–543
Hearing loss
  adjustment to, 64–75, 78–79
  age and, 65, 337–346, 357–369, 497–504
  auditory-verbal programs, 406–413
  cortical, 174–181
  feigning, 59–63
  high-frequency, 45–46
  in infants, 215–218, 220–221, 329–335, 381–382
  nonorganic, 59–63
  occupational, 497–504
  perceived hearing difficulty and, 28
  prevalence and demographics of, 183–189
  sensitivity, 337–346
  sensorineural, 215–218, 445–451, 491
  simulated, 437–443
  See also Hearing aids
Hearing preservation, 471–477
Hearing screening, 101–112, 215–218, 220–221, 506–513
Hearing sensitivity, 337–346
Hemispheric asymmetry, 167–173
HHIE. *See* Hearing Handicap Inventory for the Elderly
High–frequency hearing loss, 45–46
HINT. *See* Hearing in Noise Test
Homogeneity, 7–13
Hypertension, 215–218, 220–221

Impact hearing aid, 121–127
Infants
  hearing loss in, 329–335, 381–382
  hearing screening for, 101–112, 215–218, 220–221
Input related interference level (IRIL), 297, 299
International Standards Organization (ISO), 337, 345, 500–501
Internet. *See* World Wide Web
In-the-ear (ITE) hearing aids, 15–36, 204–213, 261–271, 284, 315, 317–318, 534–543
IRIL. *See* Input related interference level
ISO. *See* International Standards Organization
ITE. *See* In-the-ear (ITE) hearing aids

KEMAR. *See* Knowles Electronics Mannikin for Acoustic Research
Knowles Electronics Mannikin for Acoustic Research (KEMAR), 540–541

LAEP. *See* Late auditory evoked potential
Late auditory evoked potential (LAEP), 142–149
Late-onset progressive hearing loss, 215–218
Lexical factors, 86–98, 233–244, 359, 514–521
Linear peak clipping amplification, 415–420
Listening
  assistive device, 322–326
  dichotic, 86–98, 261–271
  training, 245–252
List equivalency, 390–396
Loudness, 462–470
Low-pass filtering, 425–426, 437–443

Malingering, 59–63
MAPHAB. *See* Modified Abbreviated Profile of Hearing Aid Benefit
Masking, 437–443
Maximum length sequences (MLS), 155–162
MDB. *See* Modified dual block
Mean signal-to-noise ratio (MSNR), 371–377
Median-plane localization, 171
Memory, 348–354
Microphone
  directional, 202–213, 534–543
  probe, 150–154
Mismatch negativity (MMN)
  neural refractoriness/recovery, 348–354
  reliability, 245–252, 273–274, 348–354
MLS. *See* Maximum length sequences
MMN. *See* Mismatch negativity
Modified Abbreviated Profile of Hearing Aid Benefit (MAPHAB), 64–75
Modified dual block (MDB), 423–433
Monaural amplification, 261–271
Monaural stimulation, 1–5
Motor evoked potentials, 445–451, 491
MSNR. See Mean signal-to-noise ratio
Multilingual audiometry, 254–260
Myogenic potential, 445–451, 491

NAL. *See* National Acoustic Laboratories
NAM. *See* Neighborhood Activation Model
National Acoustic Laboratories (NAL), 37–50, 261–271, 316
National Health Interview Survey (NHIS), 183–189
National Health and Nutrition Examination Survey (NHANES), 183–189
National Institute of Occupational Safety and Health (NIOSH), 497–504
Near-field cochlear nerve action potential, 471–477
Neighborhood Activation Model (NAM), 86–98, 233–244, 514–521
Neonatal intensive care unit (NICU), 215
Neural phase-locking, 523–532
Neural refractoriness, 348–354
Newborns. *See* Infants
NHANES. *See* National Health and Nutrition Examination Survey
NHIS. *See* National Health Interview Survey
NICU. *See* Neonatal intensive care unit
NIOSH. *See* National Institute of Occupational Safety and Health
NOHL. *See* Nonorganic hearing loss
Noise
  competition, 190–201
  contralateral broadband, 80–84
  effects on auditory thresholds, 52–57
  Hearing in Noise Test, 534–543
  masking, 437–443
  narrowband, 113–120
  occupational exposure to, 497–504
  Revised Speech in Noise Test, 423–433
  speech recognition in, 190–201, 357–369, 423–433, 514–521, 534–543
  See also Signal-to-noise ratio
Nonlinear amplification, 37–50
Nonorganic hearing loss (NOHL), 59–63
Nucleus CI22 cochlear implant, 478–488

OAEs. *See* Otoacoustic emissions
Occupational hearing loss, 497–504
ODMHA. *See* Omnidirectional microphone hearing aid
OHC. *See* Outer hair cell
Omnidirectional microphone hearing aid (ODMHA), 202–213
Otoacoustic emissions (OAEs)
  in newborns, 101–112, 215–218, 220–221
  spontaneous, 506, 510–511
  See also Distortion-product otoacoustic emissions; Transient evoked otoacoustic emissions
Outer hair cell (OHC), 80–84
Oxygenation, 215

Paired comparisons, 190–201
Pa/Pb waveforms, 223–231
PCS. *See* Personal communication service
Pediatrics. *See* Children
Persistent hypertension of the newborn (PPHN), 215–218, 220–221
Personal communication service (PCS), 275, 279, 286
PHAB. *See* Profile of Hearing Aid Benefit
Phase-locking, 523–532
PPHN. *See* Persistent hypertension of the newborn
Preferred volume setting, 415–420
Presbyacusis, 337–346, 497–504
Probe microphone, 150–154

Profile of Hearing Aid Benefit (PHAB), 64–75, 383–389, 434–435
Profoundly hearing-impaired, 183–189
P300 scalp topography, 1–5

Radiofrequency waveguide, 301–308
Reading span test, 360, 363, 367
REAG. *See* Real-ear aided gain
Real-ear aided gain (REAG), 150–154
Release time, 534–543
Revised Speech in Noise (RSIN) test, 423–433
Rhyme-judgment test, 359
RSIN. *See* Revised Speech in Noise (RSIN) test

SADL. *See* Satisfaction with Amplification in Daily Life
Satisfaction with Amplification in Daily Life (SADL), 15–36
Scalp topography, 1–5
Schwannoma, 471–477
SCM. *See* Sternocleidomastoid (SCM) muscle
Second formant transition, 523–532
Self-Help for Hard of Hearing People (SHHH), 277, 287–288, 294
Sensorineural hearing loss (SNHL), 215–218, 445–451, 491
Sentence recognition, 514–521
Severely hearing-impaired, 183–189
SHHH. *See* Self-Help for Hard of Hearing People
Short tone bursts, 453–459
Signal processing, 15–36, 202–213
Signal-to-noise ratio (SNR), 192, 234, 368, 371–377, 397–405, 508–511, 519–520
SII. *See* Speech Intelligibility Index
SIN. *See* Speech in Noise (SIN) test
Slope, 7–13
Slow wave sleep, 174–181
SNHL. *See* Sensorineural hearing loss
SNR. *See* Signal-to-noise ratio
SOAEs. *See* Spontaneous otoacoustic emissions
Sound
  field, 534–543
  See also Noise
Spanish Picture-Identification Task, 254–260
Spectral shaping, 462–470
Spectra processor, 478–488
Speech
  audibility, 415–420
  babble, 371–377
  competition, 167–173
  intelligibility, 190–201
  in noise, 357–369, 423–433, 514–521
  perception, 357–369, 390–396, 478–488, 537
  spectrum, 462–470, 523–532
  synthetic, 523–532
  See also Speech recognition
Speech and Visual Information Processing System (SVIPS), 357–369
Speech in Noise (SIN) test, 423–433, 514–521
Speech Intelligibility Index (SII), 40–41, 192
Speech Perception in Noise (SPIN) test, 534–543
Speech recognition
  with cochlear implant, 478–488
  intelligibility index, 40–41, 192
  multimedia Spanish Picture-Identification Task, 254–260
  in noise, 190–201, 357–369, 423–433, 514–521, 534–543
SPIN. *See* Speech Perception in Noise (SPIN) test
Spontaneous otoacoustic emissions (SOAEs), 506, 510–511
Status epilepticus, 174–181
Sternocleidomastoid (SCM) muscle, 445–451, 491
Stimulus
  competition, 142–149
  intensity level, 223–231
Suicide, 493–495
Suppression effect, 80–84
SVIPS. *See* Speech and Visual Information Processing System
Synthetic speech, 523–532

T-coil mode, 310
TDMA. *See* Time division multiple access
TEM cell. *See* Transverse electromagnetic (TEM) cell
Temporal resolution, 437–443
Temporary threshold shift (TTS), 52–57
TEOAEs. *See* Transient evoked otoacoustic emissions
Text Information Processing System (TIPS), 357–369
Text telephone (TTY), 290–294
THI. *See* Tinnitus Handicap Inventory
Time division multiple access (TDMA), 275, 277, 279, 287, 296–300, 303
Tinnitus, 379–380, 493–495
Tinnitus Handicap Inventory (THI), 379–380
TIPS. *See* Text Information Processing System
Tone bursts, 453–459
Transient evoked otoacoustic emissions (TEOAEs)
  age and contralateral suppression effects, 80–84
  and cortical hearing loss, 174–181
  ear asymmetry in, 506–507, 510
  speech babble effects, 371–377
Transverse electromagnetic (TEM) cell, 281, 325
Trapezoid gating function, 453–459
TTS. *See* Temporary threshold shift
TTY. *See* Text telephone
Tumors, 471–477
Tympanic membrane, 150–154

Unforced choice, 190–201
UNHS. *See* Universal newborn hearing screening
Universal newborn hearing screening (UNHS), 101–112
University of Oklahoma, 301–308
UTD/Callier Center for Communication Disorders, 329–335, 381–382

VEMP. *See* Vestibular evoked myogenic potential
VEOG. *See* Vertical electro-oculography
Vertical electro-oculography (VEOG), 168
Vestibular evoked myogenic potential (VEMP), 445–451, 491
Vestibular schwannoma, 471–477
Volume setting, 415–420
Vowels, 233–244, 390–396, 514–521

Waveforms, 169–170, 223–231, 251
Waveguide, 301–308
WDRC. *See* Wide dynamic range compression
Whole-wave reproducibility (WWR), 371–377
Wide dynamic range compression (WDRC), 415–420
Willingness-to-pay (WTP) approach, 383–389, 434–435
Wireless telephones
  access to, 290–294
  Australian experience, 315–321
  European experience, 296–300
  field measurements of electromagnetic interference, 275–280
  and hearing aids, 275–326
  nature of electromagnetic interference, 322–326
  roaming, 292–293
  service and equipment, 291–292
  suitcase lab measurement of digital interference, 281–285
  University of Oklahoma research, 301–308
Word recognition
  consonant-vowel-consonant, 390–396, 514–521
  dichotic, 86–98, 261–271
  lexical factors, 86–98, 233–244, 514–521
  low-pass filtering and masking noise, 437–443
  multimedia Spanish Picture-Identification Task, 254–260
  psychometric functions, 7–13
World Wide Web (WWW), 497–504
WTP. *See* Willingness-to-pay (WTP) approach
WWR. *See* Whole-wave reproducibility
WWW. *See* World Wide Web

Young adults, 86–98